

### **REMARKS/ARGUMENTS**

Claims 1-24 are pending in the present application. Claims 1-24 are rejected. Claims 1 and 12 are presently amended. Claims 4, 5 and 7 are canceled without prejudice. The minor amendments made to claims 1 and 12 serve to incorporate the features of the canceled claims (4, 5 and 7) and as such find support throughout the original specification as filed. Therefore, no new matter is introduced by these amendments and no additional search of the relevant art is entailed. Applicant acknowledges and appreciates that the Examiner has withdrawn certain previous rejections under 35 U.S.C. §§ 102 and 103 based upon review of Applicant's arguments.

#### **Rejections under 35 U.S.C. § 102(b) in view of Kameda et al. (US Patent 5,939,216)**

The composite material according to amended claim 1 of the present invention has a feature in which each of the materials of the main constitutional fibers, the auxiliary fibers, and the matrix phase is selected by considering performance characteristics of the material under high temperatures. Based on such selection criteria, the material of the matrix phase for the present invention is selected from among any of silicon carbide, carbon, zirconium carbide, silicon nitride, silicon oxide, aluminum oxide, zirconium oxide, hafnium oxide, YAG, and a heat resistant metal, and each material of the main constitutional fibers and the auxiliary fibers is selected from among any of silicon carbide, carbon, silicon nitride, silicon oxide, aluminum oxide, YAG, and a heat resistant metal. These groups lead to preferred combinations that feature beneficial characteristics, such as thermal expansibility and superior strength of the main constitutional fibers and auxiliary fibers under high temperatures.

With these features, the residual stress of a difference in thermal elongation between the fiber bundles and the matrix phase can be small when the composite material is exposed to a high temperature atmosphere, and breaking and damage (such as cracks in the matrix phase) due to the residual stress of differences in thermal elongation between the fiber bundles and the matrix phase can be prevented.

This feature of the present invention is neither disclosed nor suggested in Kameda. In particular, a braided fabric derived from a fiber bundle composed of a plurality of *organic fibers* and of ceramic fibers is disclosed in the column 3, lines 16-18 of Kameda. Kameda discloses also that "*as suitable organic fibers used here, polyester yarns and polyethylene yarns are preferred which are easily decomposable by heat treatment prior to synthesis or formation of the matrix*" in column 7, lines 10-13 and "*the organic fibers used above as auxiliary fibers are carbonized by heat treatment before matrix synthesis, and the carbonized organic fibers are utilized as a source of carbon for synthesis of a SiC*

matrix" in column 7, lines 16-19. In this way, *since the organic fibers such as polyester and polyethylene are decomposed and carbonized by heat treatment prior to matrix synthesis, the braided fabric derived from the fiber bundle of the composite material after matrix synthesis includes ceramic fibers only.* As such, it is clear that the fiber bundle of Kameda is completely different from the fiber bundle of the present invention, which includes main constitutional fibers *and* auxiliary fibers. Accordingly, the composite material of Kameda cannot achieve the purposes of the present application.

As explained above, the composite of currently amended claim 1 includes features which are neither disclosed nor suggested in Kameda, and result in reliably achieving the objectives of the present application. Accordingly, the Applicant believes that the claim 1 should be allowable.

As the above-described arguments in support of present claim 1 are equally applicable to claim 12 as presently amended, the Applicant believes that the claim 12 should also be allowable. Furthermore, as the above reasoning obviates the rejections of independent claims 1 and 12, the rejections to the claims that depend from the claims should also be considered allowable. As such, claims 1-12 and 15-24 should be deemed suitable for allowance. In sum, Applicant believes that the present amendments to claims 1 and 12 render clearly that the present invention is not anticipated by Kameda, and Applicant respectfully requests that the Examiner reconsider and withdraw the rejections of the applicable claims under 35 U.S.C. § 102 as currently amended.

**Rejections of claims 13 and 14 under 35 U.S.C. § 103 over Kameda in view of JP10-194856 or Yamaguchi et al. (US 6,723,382), respectively**

As the rejection to independent claim 12 is obviated by the present amendments to that claim, rejections to related dependent claims 13 and 14 should also be withdrawn. Applicants respectfully believe that the concerns of the Examiner have been fully addressed and the grounds for rejection overcome, and believe that the claims as currently amended are in suitable condition for allowance.

**Summary**

Entry of this Amendment into the file of the application is respectfully requested. The remarks presented above are believed to be sufficient to overcome all of the objections and rejections to the claims of the present application. The Examiner is, therefore, respectfully requested to reconsider and withdraw the subject rejections and to pass the application through to an allowance.




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If the Examiner does not agree, however, but believes that an interview would advance the progress of this case, the Examiner is respectfully invited to telephone Applicant's representative at the number below so that an interview may be scheduled.

THIS CORRESPONDENCE IS BEING  
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THROUGH THE PATENT AND  
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RCF/AGG:rra/stb

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